THE JOURNAL
of the
South Carolina Medical Association

VOLUME XXXIV March, 1938 NUMBER 3

BIOPSY METHODS AND THEIR APPLICATION

By

THOMAS M. PEERY, M. D.,* CHARLESTON, S. C.

Biopsy denotes the examination of tissue removed from the living body. It is a procedure which first came into use about the middle of the nineteenth century and which has gradually increased in popularity since, despite several brief setbacks. The method is of particular value in the study of tumors, but is also useful in obscure benign or inflammatory lesions.

If the present era of education of the laity to suspect cancer in themselves is continued—and the chances are that the movement will gain in impetus rather than slacken—the field for biopsy will be greatly broadened. As earlier cases of cancer present themselves, it will become increasingly difficult to make a correct clinical diagnosis. The textbooks still describe the presence of enlarged glands in the axilla, retraction of the nipple and puckering of the skin in cancer of the breast. When these conditions are present in conjunction with a mass in the breast, the chances are, of course, that the condition is cancer. The point is that it is then too late to do much about it. Points in the differential diagnosis of cancer must differentiate cancer while it is still curable if the differentiation is to be of value.

In these early cases we cannot take a chance and procrastinate with a lesion in the hope that it is benign, because malignant disease soon gets out of hand. On the other hand, a patient should not be submitted to a radical and possibly mutilating operation when the lesion in question may well be benign. It is in such cases—cases of early cancer or of suspected cancer—that the biopsy has its most important application, as it is the essence of early diagnosis.

Some of the smaller lesions can be completely removed without mutilating the patient. If that is the case, the mass or nodule should be excised. This is especially true of lesions of the skin. The small, scaly, pigmented skin lesion, which clinically can be either a malignant melanoma or a benign nevus which has been traumatized, should be excised, taking with it a generous rim of healthy tissue all about. Whether benign or malignant, this procedure is the proper one. The pathological study of the tissue removed is still essential, as any further procedure must be based on an accurate understanding of the disease process.

As originally devised, biopsy was used almost exclusively in the study of lesions of the cervix. Its field has now been broadened so that it is applicable to almost any part of the body that can be visualized during life. For the taking of biopsies from the urinary bladder, the larynx, or the sigmoid, special instruments are necessary. Essentially, however, biopsy is an easy procedure, and can usually be approached with little more trepidation than one holds for the removal of a splinter. If the correct diagnosis could be established early in all regions where the biopsy can be taken easily with scissors or knife, it seems likely that at least half of the cases of cancer could be given a good chance of cure.

It is generally admitted that a biopsy, care-

*From the Tumor Clinic Committee of the Roper Hospital Cancer Clinic, and from the Department of Pathology of the Medical College of the State of South Carolina.

Read before the South Carolina Medical Association, Columbia, S. C ,April 15, 1937.

fully taken, does no harm. A few men believe that there is danger of setting up metastasis by the trauma incident to biopsy, but this is unlikely if the procedure is carried out with the thought of minimizing trauma. I believe that metastasis is more apt to follow the vigorous—sometimes brutal—examination of patients than it is to follow a paintaking biopsy. Experimental evidence bears this out. Wood[1] has shown that simple incision does not increase the rate of metastasis in the Flexner rat carcinoma, but that gentle massage is apt to double the number of metastases with the same tumor.

The only other possible harm resulting from biopsy is local damage, such as increasing the rate of growth of the tumor locally, introducing infection, or damaging structures during the procedure. There is no conclusive evidence known to me that incision increases the local rate of growth of tumor cells. The possibility of introducing infection or of damaging structures is small if the procedure is carried out with care and with aseptic precautions.

For a biopsy to give an accurate picture, it must be taken from a representative area of the lesion, the tissue must be so handled that the final microscopic sections are good, and the pathologist must have a wealth of experience in surgical pathology upon which to draw in giving his opinion.

Generally speaking, there is no biopsy method that can equal the time-honored scalpel incision. This is a method that is available to everyone practicing medicine. It permits removal of a generous and characteristic section in good condition for microscopic examination. For removal of tissue from skin lesions, knife or scissors cannot be equalled. The materials needed are novocaine syringe and needle, knife and tissue forceps. Some will prefer to use scissors instead of the scalpel. Various instruments have been developed for removing tissue by cutting from areas not so readily accessible, such as the rectum. The best type of these consists merely of cutting edges which approximate like an alligator's jaws, and retain the specimen so that it will not be lost. The section should always be taken under vision.

In very vascular tumors, or in tumors of a very vascular area such as the liver, it is frequently advisable to use electrosurgery so as to control bleeding. This method has the definite disadvantage that the tissue so obtained is apt to be charred, and the portions of the specimen near the line of excision rendered useless for microscopic study. Hence if such a method is deemed advisable, a larger section of tissue should be obtained so that a sufficient amount of undamaged tissue will be submitted for study. The method also requires special equipment, thus limiting its field of usefulness.

In tumors lying deeper beneath the skin, aspiration biopsy has a limited application. The difficulty with this procedure is the interpretation of the material obtained. In the Tumor Clinic at Charleston we have used this method in the study of breast tumors with good results. While the method has a limited field of usefulness, in my opinion it is not to be recommended for general use, and can never supplant incisional biopsy. Even with the most successful aspiration interpreted by experienced men, the information gotten from this method cannot be compared with what can be learned from a well prepared section of tissue removed by incision, and a negative result must be completely ignored.

For the performance of the ordinary biopsy only a local anesthesia is required, and for biopsies of the cervix even that is not required, as the cervix proper is senseless to pain. We remove biopsies during the routine visual examination of the cervix without the patient knowing it. In other locations it will usually be necessary to infiltrate locally with a solution of novocaine. It is not necessary to infiltrate the tumor proper, although it is doubtful that any harm would come from so doing.

It is of the utmost importance that the biopsy be taken from the right place, that the tissue submitted for examination be representative. The necrotic surface of an ulcerated area will not suffice, since it will show merely the organized exudate with tissue debris. It is necessary to remove tissue from the solid portion of an ulcer, and preferably from the edge. The actual amount of tissue necessary is small, but it is well to take more than seems necessary so that the process will not have to be repeated. In an ulcerated superficial lesion it is well to have the section extend from the base of the ulcer through the margin and into the healthy

tissue. Such a section should be about 1 cm. long and about 0.5 cm. wide and deep. If the lesion has a different appearance in different parts, several sections should be taken. Seldom is bleeding of any importance if done carefully, and a simple compress bandage usually suffices. As a rule the wound will not need suturing.

Immediately after removal, the tissue section should be placed in a fixative solution. Probably the best for general use is formalin, which is a 37% solution of formaldehyde gas in water, and is stocked by all drug stores. This stock solution should be diluted with 7-8 parts of water and the specimen should be amply covered, and the container tightly sealed. It is well to have a bottle of this solution on hand in the office before taking the section. When the tissue in fixative is sent to the pathologist, it should always be accompanied by brief clinical data, giving the source and duration of the lesion and the clinical diagnosis.

What is the value of a biopsy which is positive for malignant neoplastic disease? It definitely establishes the diagnosis, and the slides prepared from it serve as a permanent record for the case, on file with the pathologist. It usually serves to classify the tumor as to cell type, and this classification indicates the course which the growth will pursue, and hence leads one to be on the lookout for metastasis. The biopsy usually permits grading of a tumor as to its potentialities, and frequently permits a statement to be made as to its ray-sensitivity.

And what is the value of a negative biopsy? That will depend. If the lesion is small and the biopsy generous, it is probably of considerable value, but if the lesion is heavily infected and quite large, you should never rely on a single section.

If the pathologist in his report tells you that the specimen is too small, or is composed of necrotic or coagulated tissue but shows no definite evidence of neoplasm, that report should not give you a sense of security. Further and larger biopsy should then be done, attempting to secure a section which includes deeper tissue, so as to get away from the surface necrosis and inflammation which are usually present. The negative biopsy can be said to be of value only when the surgeon who took the section is completely satisfied that the tissue submitted is representative of the lesion.

Summing up, then, the biopsy is a relatively simple procedure that can be performed by almost anyone with little danger to the patient. It will serve to make an accurate diagnosis in most instances, and will furnish information that will be of a great deal of value in the proper handling of the case. It gives a permanent record of the case that can be used in compiling statistics and in research. And, most important of all, it permits the physician to diagnose the disease in one who presents himself early when the chance of cure is still good.

BIBLIOGRAPHY

1. Wood, F. C., "The Experimental Pathology of Cancer." J. A. M. A. 84, 1925.

THE PROGRESS IN RADIATION THERAPY DURING THE LAST HALF CENTURY

By

IRA I. KAPLAN, B. SC., M. D., DIRECTOR DIVISION OF CANCER, DEPARTMENT OF HOSPITALS, NEW YORK CITY

Mr. Chairman: Gentlemen:

To the splendid institution you have dedicated today may well be applied the beautiful language of St. Luke who said, "You have built well like the man which built an house and digged deep and laid the foundation on a rock, and when the flood arose, the stream beat vehemently upon that house, and could not shake it, for it was founded upon a rock." And since service to suffering humanity constitutes in the highest degree true service to the Almighty Father, this will truly be a house of the Lord, where help and healing will be accorded to all, regardless of race or creed, worthily exemplifying the noblest ideals of religion and humanity.

No other disease evokes such dread and horror, such fear and anguish as does cancer. It was so regarded even in most ancient times when it was symbolically represented by the figure of the crab with extended claws tearing

Presented before the Tri-County Hospital Medical Meeting Banquet Orangeburg, South Carolina, January 17, 1938.

away at its surroundings. Down through the centuries but little was accomplished in the treatment of cancer. Nevertheless, the physician of old realized the dreadfulness of this scourge and advocated radical extermination of the cancerous growth. Galen, in his teachings, deplored the fact that whereas the farmer knew which seeds would produce weeds and could scotch the seedling sprouts ere they grew to adult stage, yet scientists were baffled in their search for any recognizable clues that would indicate the earliest stages of those cell changes which would eventually spell cancer so that they could anticipate the development of cancer and scotch it in the making.

Even today this uncertainty still lingers in part with us. However, in the course of all these centuries that have elapsed, some advance has been made in our understanding and control of this disease. While we still adhere to the old dictum of the ancients that radical removal of a neoplastic growth is the first line attack in this disease, the discovery of X-ray and radium at the close of the 19th century has provided a newer, more potent weapon in our battle against cancer.

Not without romantic aspects is the discovery of the radiant energy that has played so significant a role in human healing. If we pause to think back to the latter half of the 19th century, we see the world excited by newer discoveries and achievements in industry, science, art, and war. We are apt to think of the discoveries in medical science as productive only of relief for man's bodily ailments, and fail to consider how this relief of bodily ills greatly enriches man's spirituality, for by removing the causes of fear we provide the means for continuing man's life in happiness and contentment. Only about three quarters of a century ago, Lister, Pasteur, and Semmelweis dared to declare the current ideas of infection to be fallacious and outmoded. How these pioneers were derided and ridiculed, and yet from their pioneer achievements and momentous announcements we have developed today the aseptic methods of surgery with steam sterilization and rubber-glove protection and cleanliness which have made surgical procedures so free from the horrible mortality formerly associated with them. This led to the first great surgical advance in the treatment of cancer in the latter part of the nineteenth century, Halstead's radical operation of the breast, and then, because sterilization permitted it, the operation for cancer of the stomach.

It was about this time that the world was engrossed in scientific achievements associated with the many great social and economic changes occurring everywhere, and especially in the United States. Gradually the world began slowly to alter the processes of industry, replacing hand-made articles with machine-made ones, changing individualistic to factory methods, which resulted in the steady influx of workers from the farm to the factory. With this mass industrial movement, there arose the need for better transportation, leading to the invention of the automobile and the aeroplane.

Along with this great industrial movement there was recognized the need for medical and social adjustments, especially in the great cities. Unexpectedly the too rapid expansion associated with these newer means of industrialization and socialization was suddenly halted by a financial panic. Nevertheless, the new industrial age had so stimulated interest in science, which was looked upon as an inexhaustible source of newer developments, that even though limited by financial inadequacy, research was being carried on all over the world.

For a long time electricity was fruitful ground for experimentation, and in 1895 the world was startled by the announcement from Germany of the discovery of X-ray by Conrad Roentgen, a hard-working, earnest physicist who though originally destined to follow in the footsteps of his father, a woolen manufacturer, and later through a school-boy prank, ousted from school, eventually became one of the great students of physics. With this discovery of X-ray and the realization of its power to penetrate substances ordinarily opaque to light, medicine was given one of its great aids in the diagnosis and treatment of disease. Shortly afterwards, electricity again was able to advance human happiness, when Marconi in 1896 discovered wireless transmission based on the Hertzian waves, a discovery which later led

to the employment of radio tubes in medical electric therapeusis.

Not to be outdone by the German discovery of the X-ray, the French sought a chemical means of producing radioactivity. The work first begun by Becquerel with the already helpful uranium was later carried on under unusually great difficulties by the Curies, but it culminated in 1898 with their world startling announcement of the discovery of radium, which was to play so important a part in the care and cure of cancer sufferers. This was the year, too, that saw the development in America of the first successful commercial automobile.

In the war with Spain in 1898, X-ray was given the first opportunity to establish itself as an essential part of the equipment of the army medical service.

Two years later, when the war on this side of the Atlantic was just about over, the Boer rebellion broke out, and again X-rays played their important part in the care of wounded and sick soldiers. Later this experience was utilized in the World War, where the X-ray was an essential part of the equipment of the medical departments of all the armies engaged in this conflict.

While this important military and industrial development was proceeding, and mass-production began to bring within reach of the common man the ordinary things of life, little attention was being given, however, to control of cancer. But as the deaths from this disease began to mount, cancer came to be of increasing interest to the medical and social world. At first, a diagnosis of this disease produced on the part of the victim a feeling of abject hopelessness, culminating in his abandoning himself to an unutterably miserable end. Indeed, conditions were so bad that in 1884, in answer to the pitiful cries of these unfortunates, Mrs. John Jacob Aster and Mrs. George W. Cullins established the first hospital in NewYork City to care especially for victims of cancer. There remained, however, the question of where the indigent hopeless cases could be cared for. To meet this problem, Rose Hawthorne Lathrope, who before her entrance into the order of St. Dominick was a woman of wealth, founded the order of the Servants for Relief of Incurable Cancer in 1896 and established our first custodial hospital, the St. Rose's Home. Since then the means for hospitalization of cancer victims have hardly kept pace with the ravages of this scourage, for today cancer is the second greatest cause of death, over 175,000 people having died from this disease last year, and in the United States only heart disease counts a greater number of victims.

In the early days following the discovery of the X-ray, because so little of its biological effects were understood, it was utilized chiefly in diagnostic procedures, but today the employment of X-ray on human patients for controlling disease compares favorably for usefulness with its diagnostic effects. It is indeed a mighty metamorphosis that has taken place in radiation therapy by X-rays and radium since their discovery at the close of the 19th century, for instead of the crude, hand-evacuated Crookes Cathode Ray Tube, capable of sustaining but a small amount of electric energy, we have the recently developed million-volt Coolidge Tube. In place of the tiny quantity of radium produced by the Curies, and whose biological properties were only discovered by the accidental burn of Becquerel, we now have the large quantity radium pack, meticulously measured and standardized, whose effects can be closely calculated and to a great extent determined before actual use in the operative procedures.

In the early days of radiation therapy, treatments were limited to surface lesions, the effect on other parts of the body being not yet recognized. Later, when dosage came to be accurately controlled and the physical principles associated with radiation were better understood, irradiation was employed for treating benign and malignant diseases, no matter where situated in the body. For some conditions it is the method of choice, for others a therapeutic adjunct of real worth to surgery, while in certain cases it is the only method of treatment that offers relief or possible control of chronic conditions.

It is a far cry from the first empirical treatment of a few superficial lesions based on the accidental discovery of the biological effects of irradiation to the present time, when almost

every group of dermatological conditions may in some manner be beneficially affected by this therapeutic procedure. Since the first treatment of cancer in this country by Grubbe, about 200 pathological malignant conditions have been so treated.

Increased knowledge of the physics of radiation has made it possible to devise more effcient filter materials and thus to direct more effective and intensive irradiation internally. Until quite recently no definite, physical, recognizable measure of dosage has been possible, the older method of trial and error having left much to be desired. Establishment of a definite International Standard of measurement of dosage—the "r" unit—has provided us with a really safe control medium for prescribing therapeutic irradiation. By means of this unit and suitable apparatus, it is now possible to transfer a given technique from one hospital to another. Also, the ray quality has been more or less standardized, making it possible to denote and determine the penetrability of radiation in a more uniform manner. A number of measuring instruments are available today that facilitate obtaining a continued reading of the intensity applied.

Modern therapeutic practice teaches us to co-ordinate all these energies. Having ascertained that some tissues respond more readily to one type of ray than to another, by a judicious combination we can utilize all types together to produce the best results. Instead of the single delivered dosage employed by the earlier radiologists in the treatment of diseases and often with deleterious effects, we have today the divided dose method, enabling us to give greatly increased amounts of irradiation without destroying normal overlying tissues, a result which the earlier workers were unable to accomplish.

Accompanying the advances in the treatment of cancer by X-ray and radium there have been studies towards a better understanding of the etiology of cancer. By far one of the most pressing of moot questions is that of hereditary factors in cancer, and Maude Slye's work has done much to enlighten us. Because of the effects of irradiation on human tissues a serious question has arisen as to its possible effect on the subsequent progeny of irradiated expectant mothers. Heredity does not play here a recognizable role, and experienced radiologists do not believe the new-born generation will be adversely affected if they derive from therapeutically irradiated mothers.

The technique has undergone various changes during the last ten years. It is generally conceded that the time factor, or rate of application, plays a much greater part than has been heretofore assumed. This method, originated by Coutard, has in many cases proven superior to the earlier technique using a single heavy dose.

The combination method of prolonged irradiation has enabled us to control lesions heretofore deemed hopelessly insensitive to radiation. Especially in neoplasms of the larynx and pharynx, this method has proven of real worth in controlling the growth.

Indeed, so far has irradiation advanced today that in the treatment of cancer of the cervix, it has entirely replaced surgery. In cancer of the tongue, it is the method of choice, and in generalized diseases such as Lymphosarcoma, Hodgkin's disease and Leukemia, and Testicular malignancies, it is the only method providing any semblance of control.

Irradiation has brought about a new advance in our study of tumor growths. In many instances the response to this form of therapy proves of real diagnostic value; due to irradiation newer types of tumors have been recognized and classified.

Irradiation has also stimulated advances in other fields, the search for diagnostic procedures having produced some startling hormonal discoveries, among them the prolan determination indicating some type of malignancy, especially those of testicular origin. No longer is irradiation considered merely a means of destroying tissue growth, but its value in controlling physiological functions of various organs is deeply realized today. Glandular stimulant effects as well as depressor effects are employed in otherwise heretofore uncontrollable conditions. The stimulation effect on the ovaries in dysfunction and sterility conditions has been proven of definite worth. Alteration of the hormones associated with breast dyscrasias by irradiation is today a therapeutic measure receiving increasingly

general employment in such conditions. Parathyroid conditions associated with physiological body changes often are treated most successfully with irradiation.

Specific classification of tumors as regards radio-sensitivity has furnished us with a guide to choice of methods of treatment heretofore determined only by the trial and error method. In the treatment of generalized malignancy, X-ray therapy has proven of no little value, and each day shows its increasing worth in the treatment of inflammatory lesions. Even though not directly bactericidal in action, it provides a ready means of assisting the normal forces of the body in controlling infection, especially in furunculosis and carbuncles.

There is no question, therefore, that Radiation Therapy during the half century completed has made very marked advances. No longer is it a method of treatment based on conjecture and uncertainty, but an exact science founded on particular, specifically defined, biological and physical phenomena, and carried out under carefully framed rules and regulations. It has ceased to be merely a vague hopeful thrust in the dark and has developed into a method of treatment predicated on clincal experience and enlightened scientific training in the subject. The radiation therapeutist concerns himself with medicine and surgery along accepted lines and constantly employs these approved physical methods for determining the quantity and quality of the irradiation required for treatment of any specific case referred to him.

The unknown cause and mysterious action of cancer, the still unsolved problem of responsiveness to irradiation, and the everpresent hope and desire of man to obtain a simple universal remedy for cancer—all these factors have served to bring into existence a veritable army of quacks who offer to the receptive public, panaceas based on conjecture and founded on fraud. Your institution, which today has been dedicated to the service of humanity, will make it possible for your community to avail itself of the only physical means of combating cancer successfully, namely, surgery, X-ray and radium, and will afford you the great opportunity of establishing the Tri-County Hospital as a bulwark of accomplishment in our never ceasing battle against cancer.

AVAILABILITY OF LABORATORY METHODS TO THE PHYSICIAN IN GENERAL PRACTICE*

By

ELEANOR W. TOWNSEND, B. A., M. D., CHARLESTON, S. C.

The interest shown in this subject by a number of men about to enter the practice of medicine, as well as by older physicians wishing to keep contact with developments in laboratory medicine, suggests that a brief discussion of laboratory methods from this viewpoint may be of some value. A number of tests must, in the absence of a laboratory immediately at hand, be carried out in the physician's office; others may be performed then and there or sent away, depending upon his equipment and preference; and some will remain which can seldom conveniently be made office procedures but which may easily be sent to a laboratory at any distance necessary if the points essential to sending a satisfactory specimen are well understood.

The physician who begins independent practice is suddenly cast adrift from the laboratory routine to which he has been bound as a student and interne, and it is necessary for him to establish his own minimal requirements in the examination of each patient or else risk irreparable errors.

Examination of a specimen of urine is too well established as a requirement in every case to need comment; but within the past few years we have had referred to us a young patient in whom amputation had been performed following gangrene because an early diagnosis of diabetes had been missed. The reagents for albumin and sugar tests can be made by any pharmacist or procured from supply houses; and for microscopic examination of the sediment, which is almost equally essential, the specimen can be allowed to stand in a cylinder, for a few hours, although a centrifuge is convenient. Some of the less common tests, as those for bile, urobilin, and

*Presented before the John L. Dawson Clinical Society, January 25, 1938.

Bence-Jones protein, can be made in the office as easily and cheaply as the common ones. An ordinary Centigrade thermometer costs about 60 cents and is indispensable for the latter as well as for verifying positive sugar tests by fermentation with yeast, and for other purposes. Testing the hydrogen-ion concentration of the urine is a quick, simple office procedure which must be carried out immediately after the specimen is obtained; and the cost of a set of standards and indicators is a necessary investment if ketogenic diets or mandelic acid compounds are to be used in the treatment of urinary tract infections.

The first test for kidney function which should suggest itsef is the simplest: namely, the specific gravity of a specimen taken under controlled conditions, (fasting and no fluids for 15 hours) for the concentration test, with a urinometer which has been floated in distilled water at the same temperature as the specimen. The next in simplicity, and one which we have used very satisfactorily, is the single-specimen, 15 minute intravenous PSP test (1). Clinical indications and sources of error, clinical or technical, cannot be gone into fully here, but it must be mentioned that disturbances of circulation and fluid balance interfere with either of these tests. We have found also that the urea clearance test can be used for out-patients, and this could be carried out by any physician so located that he could send the specimens to a laboratory on the same day for determination of the urea nitrogen, keeping them at a reasonably low temperature but not necessarily by refrigeration meanwhile. No preservative can be added to blood or urine which is to be used for urea nitrogen determination; the blood is oxalated to prevent coagulation.

As a general rule, if a specimen of urine is to be shipped to a laboratory, one drop of formalin (40 per cent formaldehyde) should be added for each ounce. This is satisfactory for most chemical tests in this proportion, and we have obtained a positive Friedman test with a specimen preserved in this way. For preservation of the hormone on which the pregnancy test is based, however, tricresol is to be preferred, in proportion of one drop to the ounce; and although recent work indicates that the hormone is more stable than was at first believed (2), it is still considered that results if negative can most surely be relied upon when each specimen, obtained on two successive mornings, is injected into the rabbit within a few hours and refrigerated meanwhile. These specimens must be obtained from the patient in the fasting state to insure the maximal concentration of the hormone, and, if alkaline must be acidified by the addition of a few drops of acetic acid until acid to litmus.

When examination of the urine for tubercle bacilli is indicated, a large amount, preferably the 24 hour amount, should be used. Where it is not convenient to send all of this to the laboratory, it should be saved in one large wide-mouthed container, acidified with a few drops of acetic acid, and precipitated by the addition of 2 c. c. of 5 per cent tannic acid per liter of specimen. At the end of 24 hours the supernatant fluid is decanted, and the sediment, or lower fraction of the specimen containing the sediment, sent to the laboratory for further concentration, examination of smears, and for guinea pig inoculation if necessary.

In considering practical hematology, perhaps the one examination never to be omitted in any case and in which students have the greatest opportunity to develop experience is the study of a stained thin blood smear. Its omission has caused cases of granulocytopenia (agranulocytosis) to be diagnosed as Vincent's or diphtheria, and a case of acute leukemia as acute tonsillitis. Together with the hemoglobin it will furnish all the information needed in some cases, and in others will show clearly what next should be done. Often neglectfully used merely for differential count, a slide stained by Wright's or other Romanowsky stain will tell a careful observer much as to the approximate number of the leucocytes and the nature of changes in the red cells, as well as the presence of blood parasites if at all numerous. With a little extra preparation of the skin puncture with magnesium sulphate solution an indirect platelet count can be done from a stained slide in conjunction with a red cell count (3). Thick blood smears, used mostly in search for malarial parasites, in which they are indispensable if the parasites are at all scarce, will demonstrate other blood

parasites, including the sprirochete of relapsing fever, and also the presence of basophilic stippling and any notable increase in the reticulocytes, both the last two points having a bearing on their usefulness in the diagnosis of lead poisoning. For successful smears absolutely grease-free slides are essential. New slides should be washed in hot soapy water and thoroughly rinsed, or polished with Bon Ami, or placed in a mixture of equal parts 95 per cent (not medicated) alcohol and ether before wiping dry just before use.

A convenient method of vital staining for reticulocyte counts is one in which the dye (cresyl blue) is combined with an anticoagulant, sodium oxalate, and dried in capillary tubes which can be kept on hand (4). Blood from a skin puncture allowed to fill one of these tubes by capillarity and remain in it for five or ten minutes will furnish several thinly spread smears, which may be stained with Wright's and counted when convenient. Such preparations should always be made before systematic liver therapy for pernicious anemia is begun, as well as at short intervals after; and, properly labelled and dated, may be sent to a hematologist if necessary for verification of the reticulocyte response as well as observation of the blood picture.

Stained blood smears sent to a laboratory consultant should be accompanied by several unstained. Not only are these valuable for special stains, as Goodpasture's peroxidase method, but one if spread thin enough to give a single even layer of erythrocytes is suitable for measuring the red cell diameter by diffraction. This procedure, commonly called the halo or halometer test is very useful in the differentiation of a macrocytic from a normocytic or microcytic type of anemia where it is not feasible to make a complete hematocrit study.

Few physicians find it convenient to make any blood chemical analysis in the office, although some determinations, especially the blood sugar, are simple enough if one has time or competent assistance and proper equipment. But all the diagnostic information derived from blood chemical analysis in his cases is available to anyone who has at hand the materials for taking and sending the blood. This simple equipment may be described as follows:

(1) 10-c. c. test tubes with rubber stoppers, for tests requiring serum, as calcium, serum proteins, icterus index and van den Bergh. These test tubes may also be used for sending blood for the Wassermann and other serological tests.

(2) 15-c. c. bottles with wide mouth and rubber or glass stoppers.

(3) Anticoagulants.

Two are necessary:

(a) A few ounces of saturated solution of potassium or sodium fluoride to be used for blood for sugar estimation. This keeps indefinitely. A small bottle fitted with a dropper is kept at hand. One drop of the solution is put into a clean dry 15-c. c. bottle, to which 5-c. c. of blood are added with immediate shaking. This is to prevent glycolysis as well as coagulation, so that sugar determinations on such specimens are accurate when they are sent by mail to the laboratory. The addition of a small crystal of thymol is an additional precaution. Fluoride is not to be used for determinations of other constituents of the blood. It cannot be used for urea determination because of inhibitory effect upon urease.

(b) Neutral potassium oxalate. This is an effective anticoagulant in amounts of 2 mg. per cubic centimeter of blood. It is most conveniently used in a 5 per cent solution, of which 0.2 c. c. or 4 drops are put into a bottle marked for 5 c. c. of blood; or 0.4 (8 drops) into one for 10-c. c. of blood. These bottles, so labelled, are dried in an incubator or oven and tightly stoppered, and may be kept for any length of time until needed. They are used for any method, except sugar, for which whole blood is required, as non-protein nitrogen, urea nitrogen, cholesterol, etc.

(4) Round cardboard mailing cases such as those in which drug samples are frequently received, on which gummed labels may be pasted, are convenient for sending specimens.

(5) A list of the blood chemical analyses found clinically applicable, stating the amount of blood required for each and the preferred method of sending it, should be kept at hand and revised every year by the clinical pathologist receiving the blood. Keidel's vacuum tubes, although relatively expensive, are often convenient. They may be obtained empty, for

blood which is to clot for serum to be used, and also containing anticoagulants or culture media.

An important technical point worth recalling in the collection of blood for any test requiring the use of serum, particularly the icterus index, the van den Bergh, and serological tests for syphilis, is that there must be no hemolysis. This may be difficult to avoid when sending blood in very hot weather, unless it is feasible to remove the serum from the clot, keeping it sterile and sending only the serum, but it is usually easily avoided by using an absolutely dry syringe and needle. Dry sterilization is not necessary. Boiling shortly before use, draining and leaving uncovered for a minute or two to steam and cool, and blowing air with the plunger from the barrel of the syringe through the needle, leaves no moisture sufficient to cause hemolysis.

Distance from the laboratory involves no loss in accuracy if the conditions essential to sending a satisfactory specimen of blood are met, and rarely any loss in the efficiency with which diagnosis and treatment may be correlated except in some instances in determinations of the blood sugar. Even in a case of diabetes mellitus the immediate measures of treatment are not infrequently guided by the results of tests for sugar and acetone bodies in the urine as related to the signs and symptoms presented, and the information derived from fluctuations in the blood sugar used in the continued management of the case.

In the diagnosis of various cases, intestinal parasitism should receive more consideration than is frequently given it. We have repeatedly found hookworm and roundworm infections in adult private patients, which suggests that they may persist in the individual longer than is generally believed, having probably been acquired by these patients in childhood. Microscopic examination for the ova is easily made, but such specimens can be sent to a laboratory after adding an equal amount of 10 per cent formalin. So can specimens for cysts, a very important point to remember since the diagnosis of amebiasis must be made from the identification of the cysts rather than on finding the vegetative form which is more difficult to identify as pathogenic.

Gastric analysis is an office procedure too familiar to most physicians to require detailed comment, and the choice of test meals is well outlined in laboratory testbooks. A satisfactory one in the majority of cases is seven per cent alcohol made by diluting 3.8 c. c. of pure 95 per cent ethyl alcohol up to 50 c .c . with water. It is usually convenient to take specimens of the gastric contents fasting, and at 15 minute intervals after the alcohol has been given through the Rehfuss or Levin tube, having histamine phosphate at hand so that if no free HCL appears when 30 minutes have elapsed after the alcohol, a small subcutaneous dose of histamine may be used. Analysis of the specimens obtained is preferably made at once in the office; but should it be necessary to send them to a laboratory, this may be done. It has been found that the free HCL content does not change in such specimens for a considerable length of time.

The usual examinations made of sputum, comprising inspection of its gross characteristics and staining for acid fast bacilli, can be made in the office and are well known, but it is worthwhile to remember that several other examinations are simple and useful. Staining smears of sputum with crystal violet, Wright's, or Giemsa for Vincent's and finding a fusospirochetal infection, the mouth having been excluded as the source, may be valuable especially in cases of lung abscess. The constant presence in sputum smears, unstained or stained, of the spores and mycelia of a fungus would suggest bronchopulmonary moniliasis, and indicate culture of a fresh specimen for pathogenic fungi. It must also be remembered that when the occupational history indicates it, asbestosis bodies should be searched for, and the sputum for this purpose should be digested with an equal amount of 10 per cent sodium hydroxide, or sent to the laboratory, mixed with 10 per cent formalin, for digestion and examination.

The most important examination which can be made on sputum, from the standpoint of treatment as a lifesaving measure in acute illness, is pneumococcus typing, which is now feasible in any physician's office and indispensable to the proper care of his pneumonia cases if he has not a laboratory within an hour's

reach. Materials for this can be bought from a reliable biological supply house, and serum for eight types can now be obtained, and, if not at hand locally, is usually available by air mail within 12 to 18 hours.

The subject of the various transudates and exudates is so comprehensive that only a few points can be discussed. Spinal fluid counts should be made at once, must be made within a few hours even if an anticoagulant has been added (which renders that particular test tube of the specimen fit only for cell count), and can be made by anyone with a microscope and hemacytometer counting chamber. Use of a diluting fluid (5) prepared with methyl violet, 0.2 per cent in 10 per cent acetic acid, enables the examiner to make a differential count on the cells in the counting chamber. Qualitative tests for proteins and sugar are easily made, and if the cell count is high, the web which forms on standing, or the sediment which settles or is centrifuged out, is stained and searched for organisms. A test tube containing not less than 6 c .c and preferably at least 8 c. c. which has been kept sterile by collecting directly from the needle, stoppered at once and left unopened, may be sent to a laboratory at any distance for Wassermann and colloidal gold tests. Colloidal gold tests require only a small amount of fluid but cannot be made if any trace of blood is present.

Many apparently or almost clear fluids obtained from serous cavities, such as the pleural or pericardial cavity, whose protein content and specific gravity place them in the class of exudates but which show no organisms in smears, are tuberculous. This diagnosis can be confirmed by collecting some of every such fluid in a bottle containing a small amount of sodium citrate thoroughly mixed with the specimen, and sending to the laboratory for inoculation into a guinea pig or into special culture media, remembering that a final report of the result will take three to six weeks. This lapse of time, however, does not nullify the usefulness of this method in many of the cases in which it is indicated.

One of the most important of diagnostic procedures is the dark field examination of the exudate from a primary syphilitic lesion for Treponema pallidum. During the past six years it has been repeatedly proven by different workers (6) (7) that such material can be sent from a distance by mail to a laboratory without loss of the characteristics of the organism on which the diagnosis is based. The suspected lesion is prepared in the same way as for making a slide for dark field, but the exudate, instead of being collected on a cover glass, is collected in a capillary tube which must be filled, so as to exclude air, and then embedded in a mixture of vaseline and paraffin in which it is shipped. This equipment can be obtained from the State Board of Mealth.

In the diagnosis of various skin lesions the fungous diseases must be considered. Scrapings from the skin lesion or drainage from a sinus tract may be placed in a drop of 10 per cent sodium or potassium hydroxide on a slide under a cover glass, or may be added to one of these solutions in a test tube and sent to the laboratory. From a sinus tract, material should be aspirated and sent also for guinea pig inoculation in the same way as any other possibly tuberculous exudate, having a few crystals of sodium citrate or a small amount of 5 per cent sodium citrate solution placed in the tube before collection.

No attempt has been made here to review completely so comprehensive a subject, or even to discuss fully each topic touched upon, but merely to present a few useful facts which may faciliate the employment of some of the methods available in a clinical laboratory. The extent to which laboratory tests have been simplified and made available to all physicians compensates in great measure for their increase in number and variety, so that today there are indeed few, if any, essential to diagnosis which can not be used anywhere.

REFERENCES

1. Chapman, E. M. and Halsted, J. A. Am. J. Am. Med. Sci. 186: 223 Aug. 1933.

2. Feresten. Morris. Endocrinology 21:119 Jan. 1937.

3. Kolmer and Boerner. Approved Laboratory Technique. Page 95. D. Appleton & Co. New York 1931.

4. Haden, R. L. Clinical Laboratory Methods. Page 114. C. V. Mosby Company. St. Louis, 1929.

5. Ref. 3. Page 237. A small amount of this fluid, sufficient for immediate use, should be filtered before using.

6. Mahoney, J. F., and Bryant, K. K. Ven. Dis. Inf. XI: 103, March 20, 1930.

7. Elmer, H. E. Am. J. Pub. Health. 24:629. 1934.

BOOK REVIEWS

OBSTETRIC AND GYNECOLOGIC NURSING: By Frederick H. Falls, M. S., M. D., F. A. C. S., Professor of Obstetrics and Gynecology, University of Illinois, College of Medicine; Attending Gynecologist of the Illinois Research and Educational Hospital; Attending Gynecologist, Cook County Hospital ; Attending Gynecologist and Obstetrician at Grant Hospital; Consulting Gynecologist at St. Luke's Hospital; Consulting Obstetrician at West Suburban, Swedish Covenant, Augustana, Norwegian, Lutheran Deaconess, and St. Vincent's Hospitals; and Jane R. McLaughlin, B. A., R. N., Supervisor of the Department of Obstetrics and Gynecology, Research and Educational Hospital, University of Illinois, College of Medicine; Instructor in the Department of Obstetrics, University of Illinois, College of Medicine; Formerly Instructor in Obstetrics and Gynecology, Cook County Hospital School of Nursing; Supervisor of Obstetrics Gynecology, University of Iowa; Supervisor of Obstetrics, and Instructor in the School of Nursing, University of Maryland. Illustrations by Charlotte S. Holt. Price $3.00. St. Louis: The C. V. Mosby Company, 1937.

This is a splendid text book valuable not only for the nurse in training but for the practising nurse in any field touching upon the subjects considered herein. The combination of obstetrics and gynecology is in line with modern trends. The first part of the book is largely taken up with anatomy, physiology and certain phases of pathology. The illustrations in this connection are very good. As a matter of fact the illustrations all through the book are above the average in a book of this kind. The print is excellent. There is a satisfactory glossary at the end of the book. All told there are four hundred and ninety two pages.

SYPHILIS THE NEXT GREAT PLAGUE TO GO: By Morris Fishbein, M. D., Editor, Journal of the American Medical Association and of Hygeia, the Health Magazine, Philadelphia: David McKay Company 1937.

With the campaign for the control of syphilis now in full swing this book is timely and of marked educational value to the public. The history of syphilis has been clearly presented, and the present progress against the disease outlined, with general suggestions as to the treatment of the disease. The illustrations elucidating the text are very good.

THE CEREBROSPINAL FLUID: By H. Houston Merritt, M. D., Assistant Professor of Neurology, Harvard Medical School; Director of the Cerebrospinal Fluid Laboratory, Boston City Hospital; and Frank Fremont-Smith, M. D., Formerly Assistant Professor of Neuropathology, Harvard Medical School; formerly Director of the Cerebrospinal Fluid Laboratory, Boston City Hospital. With a Foreword by James B. Ayer, M. D. 333 pages with 17 illustrations. Philadelphia and London: W. B. Saunders Company, 1937. Cloth, $5.00 net.

This book is perhaps one of the most extensive single volumes ever published in this country on the subject. Following the introductory chapter there is an excellent chapter on the history of the subject; then follows a chapter on anatomy and physiology, another on chemistry and pathologic physiology, and then the technique of lumbar and cistern puncture. The indications for lumbar puncture and the therapeutic use of same also come in for careful consideration. The bibliopraphy is unusually extensive.

CRIPPLED CHILDREN: THEIR TREATMENT AND ORTHOPEDIC NURSING: By Earl D. McBride, B. S., M. D., F. A. C. S., Assistant Professor of Orthopedic Surgery, University of Oklahoma School of Medicine; Attending Orthopedic Surgeon to St. Anthony Hospital; Associate Orthopedic Surgeon to Oklahoma City General and Wesley Hospitals; Visiting Surgeon to W. J. Bryan School for Crippled Children; Chief of Staff to Reconstruction Hospital, Oklahoma City, Oklahoma; Member of American Academy of Orthopedic Surgeons; in collaboration with Winifred R. Sink, A. B., R. N. Educational Director, Grace Hospital School of Nursing, Detroit, Michigan; Formerly Head Nurse of James Whitcomb Riley Hospital of the Indiana University Group; Instructor of Nurses, Indiana University School of Nursing; Educational Director, General Hospital, Mansfield, Ohio. Second Edition. Price $3.50. St. Louis: The C. V. Mosby Company, 1937.

The appeal of crippled children has never been so much in the limelight as it is at the present time, and justly so. This book is particularly intended for the nurse in charge of orthopedic cases. The illustrations are good and the book is up to date.

THE JOURNAL
OF THE
South Carolina Medical Association

EDITOR-IN-CHIEF
Edgar A. Hines, M.D., F.A.C.P.-------Seneca, S. C

ASSISTANT EDITOR
J. I. Waring, M.D.----------Charleston, S. C.

ASSOCIATE EDITORS
Internal Medicine
J. H. Cannon, M.D., F.A.C.P.-------Charleston, S. C.
Pediatrics
R. M. Pollitzer, M.D.----------Greenville, S. C.
Obstetrics and Gynecology
J. D. Guess, M.D.----------Greenville, S. C.
Urology
The S. C. Urological Society
Roentgenology
R. B. Taft, M.D.----------Charleston, S. C.
Pathology and Bacteriology
H. H. Plowden, M.D.----------Columbia, S. C.
Surgery
Wm. H. Prioleau, M.D., F.A.C.S.---Charleston, S. C.
Eye, Ear, Nose and Throat
J. F. Townsend, M.D., F.A.C.S.----Charleston, S. C.
Dermatology and Syphilology
J. Richard Allison, M.D.----------Columbia, S. C.
Gastro-Enterology and Proctology
W. T. Brockman, M.D.----------Greenville, S. C.
Nervous and Mental Diseases
E. L. Horger, M.D.---State Hospital, Columbia, S. C.
Medical Reserve Corps
Col. J. E. Daniel, Med. Res.----------Greenville, S. C.
Public Health
B. F. Wyman, M.D.----------Columbia, S. C.
Orthopedic Surgery
Austin T. Moore, M. D.----------Columbia, S. C.

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

OFFICE OF PUBLICATION
Medical Building----------Seneca, S. C.

Subscription Price----------$3.00 Per Year

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under Act of March 3, 1879.
Accepted for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

MARCH, 1938

THE AMERICAN MEDICAL ASSOCIATION SAN FRANCISCO JUNE 13-17

The meeting of the A. M. A. on the Pacific Coast this year, aside from the usual splendid scientific attractions, offers many other inducements to the members of the Association and their families from the standpoint of scenic travel by various routes. The month of June is a real vacation season, and it is desirable on the part of most members that plans for attending the great national convention include the vacation feature. Most State Medical Societies are entering into arrangements whereby the members of the respective State Societies may travel together. The railroads are endeavoring to secure information as to the number of members who desire this service, in order that ample provision may be made to accommodate them. This Journal wishes to know at the earliest possible moment the names of the members of the South Carolina Medical Association who would like to participate in the above arrangements. Just drop a card to the Journal, and full information will be sent by the various transportation companies.

THE MYRTLE BEACH MEETING MAY 17, 18, 19

The preliminary program for the scientific papers and round table discussions is well under way at this time, and everything points to an unusual attendance at this far famed resort. The Ocean Forest Hotel will be the Headquarters for the Association meeting, but there are many other good hotels and boarding houses available. The April issue of the Journal will provide information as to rates, etc. The entire program this year calls for three full days at Myrtle Beach.

On Tuesday, May 17, the House of Delegates will assemble at 10:00 A. M. instead of at night, and the entire day will be devoted to legislative matters. There are so many problems confronting the medical profession today that it is impossible to give proper attention to them in three or four hours. In this respect, however, the Association is simply returning to the original schedule of hours for the House of Delegates which was changed during the World War. There will probably be an unusually interesting scientific program on Tuesday night to open the general scientific program to follow on Wednesday and Thursday.

The whole scheme of conducting the scientific sessions has been changed this year in that only half of the program will be devoted to paper reading exercises. The other half of

the program will consist of round table discussions stimulated by carefully chosen leaders in their respective specialties. This innovation is in line with several progressive state and national societies.

The President has invited several distinguished guests, and their names will be announced shortly.

The Woman's Auxiliary is now one of the most important allied organizations to medicine in the country, and the South Carolina branch will play a significant part in the Association activities at Myrtle Beach. This is one year in which the doctor should not fail to take his wife along, for the entire setting of the place of meeting lends itself to just such a joint feature of entertainment along with the extensive post graduate courses offered.

GREENVILLE SOCIETY MOVES FORWARD

The Greenville County Medical Society has embarked upon an extensive plan of enlarged activities in many directions, one of these being inviting a nationally known guest for each month. The Society has also inaugurated a new County Society Bulletin service, the first number coming off the press in February. The new Bulletin is a very creditable publication and will fill an inspiring niche in the medical literature of the State. The very large attendance, not only of the members of the Society but members of the surrounding county societies, shows the keen appreciation of the opportunities offered by virtue of the plan put into effect recently.

ORTHOPEDIC SURGERY

AUSTIN T. MOORE, M. D., COLUMBIA, S. C.

LUMBAGO WITH AND WITHOUT SCIATICA

Next to the common cold, the complaint of backache is probably the most frequent and wide-spread affliction of all medical ills. Cases vary in intensity from mildest discomforts to totally disabling conditions, yet little has been known regarding the differential diagnosis of these conditions, and in severe cases no disorder is more difficult to treat.

Back disabilities are seen by almost all divisions of medical men, regardless of their specialty. General practitioners give salicylates; ear, eye, nose, and throat men remove tonsils; dentists extract teeth; proctologists treat hemorrhoids; urologists massage prostates; gynecologists treat cervices; general surgeons operate on pelvic or other organs; traumatologists strap the back; chiropractors twist the back; orthopedists fuse the spine—and so on it goes. Each individual cures cases that he sees in his specialty and gradually acquires the idea that most cases should be handled in that manner. But there have been some cases that none of these methods have relieved. A number of them have been classified by the psychiatrists as neurotics. A number of them have been shamefully cut off from compensation to which they were justly entitled.

It is true that an individual may have backache with or without sciatic radiating pains down one or both lower extremities, and that the condition may be purely medical. It is also true that these same subjective symptoms may present one of the most baffling problems with which the orthopedist has to deal.

There are many strictly orthopedic conditions that may cause sciatica: static imbalance from postural disturbances; congenital defects; chronic strains; myositis or myofascitis; sacralized processes with arthritis; lumbo-sacral or sacro-iliac strain or arthritis; lamina or pedicle defects; spondylolisthesis or spondyloloysis; fractures or dislocation with nerve root impingement—these and many others could be listed. A careful orthopedic back examination is exacting and time consuming. Until recently a number of these cases were given up after months of conservative or operative therapy.

They were classified as permanently disabling conditions and rated as such.

In recent months two very valuable contributions have been made which are helping to solve the back problems. The first contribution is that of definitely localizing the exact site of the trouble by injecting the tender points with 5 to 10 cc's of 1% novocain. The needle point should reproduce the radiating pain, and the novocain should relieve it for 1½ to 2 hours. The second contribution is that made by the neurologists and orthopedists working together. Benign and malignant tumors of the cord have long been appreciated, diagnosed, and appropriately treated. More recently two new types of cord pressure have been accounted for, and obstinate cases of back pain with or without sciatica have been relieved. The conditions are prolapse of the neucleous pulposus and hypertrophy of the ligamentum flavum. The former produces pressure on the cord from its ventral aspect, the latter produces pressure on the cord from behind.

Special tests have been devised to aid in the diagnosis of these conditions. A good neurological examination is essential, but may not be positive. The spinal fluid is studied. Tests are made for blockage, and serological, cytological, and chemical studies of the fluid are made. A recent test of especial value is the estimation of total spinal fluid protein present. The protein is estimated in mgms. per 100 cc's, and if elevated it is a very positive indication that there is either direct cord pressure or root irritation. To complete the study the spine may be injected with approximately 5 cc's of iodized oil and the outline of the canal visualized under the fluroscope on a tilt top table. The head end is alternately raised and lowered very slowly, and opaque oil may be seen to flow around any obstruction present. "Spot" X-ray films are made just as the oil is passing the obstruction. Once the accurate diagnosis is made, the remainder of the treatment is not so difficult. Laminectomy and removal of the mass frequently affords very dramatic relief.

Apparently we are much nearer to the solution of our bad back cases.

PATHOLOGICAL CONFERENCE, MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. Richards
ABSTRACT NO. 345 (40395)
October 8, 1937

Student Hutt (presenting case):

A 39 year old negro male, laborer, admitted June 8, died June 16.

History: Dyspnoea, palpitation and occasional orthopnoea for about two months before admission. About 7-8 weeks before admission developed fever in afternoon, with sweating at night. Became much weaker, fever became higher; confined to bed for 6 weeks before admission. Coughing for about 6 weeks. Slight hemoptysis for several days when cough first began. Pain in the lumbar region for about 3 weeks. Tenderness of tips of 1st and 2nd toes for several days before admission. Swelling of feet and ankles for about 2 weeks. No cardiac symptoms before present illness.

Father died of "dropsy." No history of exposure to tbc. Chancre 11 years before admission, with positive Wassermann; received 2 "shots." Left shoulder and elbow very painful 11 years before admission; gc. urethritis shortly before that. Typhoid fever 8 years before admission.

Examination: Temp. 102.6, pulse 148, resp. 48, BP 120/55. Skin and mucous membranes negative. Eyes, ears, nose and tongue normal. One carious tooth. Tonsils and pharynx normal. Lymph glands not enlarged. Marked arterial pulsations in neck. Chest: Expansion equal; fine rales over upper portions of both lungs anteriorly, few rales in rt. axilla. (Tubular breathing found by one examiner over left upper lobe; another examiner did not note it.)

Heart: Questionably enlarged, To-and-fro murmur over precordium, loudest at apex. Diastolic murmur along left border of sternum. Occasional premature systoles. Abdomen soft, rounded; liver and spleen not palpated. No tenderness. Extremities: "Proximal-distal curvature of finger-nails slightly accentuated." Pitting edema of feet, ankles, lower legs.

Lab: Urine (1 exam) cloudy, alb. 1 pus, sugar questionable 1 plus, acetone and casts neg., leuk. 1-2 per HPF, no erythrocytes. Blood (one exam., 6-8) Hb 55% (D); WBC 11,875; polys 90½, small lymphs 9%, large monos 1%. Blood Kolmer and Kline 4 plus. Sputum (2 exams): no blood, no T. B., mixed bacterial flora, Sputum culture (6-9) type IV pneumococcus. X-ray of chest (6-14): See chart.

Progress: Temp. showed fall in mornings to near normal, rising in afternoon or evening to 100.4-103.2. Pulse ranged with temp. curve, slightly above it on chart (96-130). Resp. 32-52, showing no definite change during hospital stay. On 6-13, rales were still present over rt. lung anteriorly and superiorly. Edema persisted in spite of digitalis, ammonium chloride, and restriction of intake to 1500 cc. daily. On 6-15 complained of pain in left submaxillary region, and pain on swallowing. Became much worse on morning of 6-16. Seemed irrational and very weak. Auricular fibrillation. Pulse became imperceptible and patient ceased to breathe at 11:35 A. M.

Dr. Robert Wilson (conducting): Mr. Boggs, will you open the discussion?

Student Boggs: The history of dyspnoea, edema, and orthopnoea, the blood pressure of 120/55, the marked arterial pulsations in the neck, the diastolic murmur at the left border of the sternum, all make me think of aortic insufficiency. Syphilis and rheumatic fever are the two commonest cause of aortic insufficiency, with syphilis the more common of the two in this locality. This man gave a history of chancre 11 years before his present illness, he had received inadequate treatment and still had a positive Kolmer and Kline. This definite syphilitic record makes me think that the heart disease is syphilitic valvulitis of the aortic valve.

There is also a history of continued low-grade fever, cough, hemoptysis, and sweating. The pulse rate and respiratory rate are both rapid. There are rales in the apices of the lungs, and there appears to have been slight clubbing of the fingers. These suggest a chronic infection of the lungs, such as lung abscess or tuberculosis. Lung abscess is usually preceded by upper respiratory tract infection, or an operation about the nose or throat. This history is lacking in this case, and the physical signs are not those of abscess; so I am excluding that possibility.

Tuberculosis of the lungs, especially the acute miliary form, are suggested by the fever and the blood count, which indicates a septic process. The short course of the illness is consistent with miliary tuberculosis. The negative sputum is somewhat against the ordinary forms of pulmonary tuberculosis, but is not against miliary tuberculosis.

The fever, tenderness of the tips of the toes, the incurvation of the finger nails, low hemoglobin, and hemoptysis are suggestive of subacute bacterial endocarditis. There are no petechiae, and no very definite evidence of embolism, and the spleen was not palpated. I am unable to rule out subacute bacterial endocarditis, but miliary tuberculosis seems more likely to me.

His death seems to have been the result of an acute toxemia, which probably had its effects on the myocardium, bringing on auricular fibrillation, which is rather uncommon in syphilitic aortic insufficiency.

I believe that the patient had syphilitic valvulitis of the aortic valve and acute miliary tuberculosis.

Dr. Wilson: Mr. Pratt-Thomas, will you continue?

Student Pratt-Thomas: I agree with Mr. Boggs that this man had syphilitic heart disease, as the history, the examination, and the laboratory findings are quite consistent with that diagnosis. I know that rheumatism will be brought out during the course of the conference—it always is—but I think that the probabilities here are that the patient had syphilitic infection of the aortic valve. In rheumatic heart disease, I would expect characteristically mitral stenosis, of which there is no definite evidence here, either in the exami-

nation of the heart, or in the usually conspicuous chronic passive congestion of the lungs.

In addition to the heart disease, we have here many of the symptoms of miliary tuberculosis, as Mr. Boggs has pointed out. I doubt the likelihood of subacute bacterial endocarditis; there are no petechiae, the spleen is not enlarged, "Osler's nodes" were not present.

I suppose syphilis of the lungs can be considered, but to me that is such a nebulous possibility that I think it merits no further discussion.

Dr. Wilson: Mr. Chandler?

Student Chandler: I can only repeat what has already been said. I agree with the others that this is probably syphilitic heart disease and a separate lung disease, probably acute miliary tuberculosis. I think that subacute bacterial endocarditis is usually more fulminating than this.

Dr. Wilson: It frequently lasts many months, Mr. Chandler.

Student Chandler: All right, I'll retract that argument.

Dr. Wilson: At this point I think we might look at the X-ray of the chest. Mr. Chandler, what do you make of it?

Student Chandler (viewing X-ray): I don't think that the lungs are clear by any means. There are heavy shadows here on both sides of the mediastinum. The heart is also enlarged rather definitely.

Dr. Wilson: Here is Dr. Rudisill's report: "There is questionable enlargement of the heart and aorta. The broncho-vascular markings at the hilus are increased, probably pulmonary congestion, although possibly overshadowing pulmonary pathology."

Mr. Boggs, what is your opinion now?

Student Boggs: I think there is rather definite cardiac enlargement. There is not as much prominence of the left ventricle as is usually seen in aortic insufficiency, however. The heart does not have the definite contour of the heart of mitral valve disease, although the right border of the heart is slightly prominent.

Dr. Wilson: Dr. Smith, do you care to discuss the case?

Dr. Smith: There is some increased density of the central portions of the lung fields, but as Dr. Rudisill has reported, it may well be congestion. The heart is not as large as I was expecting to find it. In the absence of more definite X-ray evidence of lung disease, and with the small heart, I am inclined to believe that this is a bacterial infection, possibly endocarditis.

Dr. Wilson: Dr. Cannon, do you wish to join in?

Dr. Cannon: From the history, I thought, with the students, that the patient probably had pulmonary tuberculosis, but from the X-ray I do not think that now.

The whole picture is one of some septic process. There seems to be little question about the to-and-fro murmur at the apex. If that were just a systolic murmur, we could easily explain it away as inorganic, but here the to-and-fro murmurs, the septic course, the hemoptyses make me believe the case is a bacterial endocarditis, either acute or subacute.

Student Hutt: The final clinical diagnosis was syphilitic aortic insufficiency and bronchopneumonia.

Dr. Wilson: There isn't anything here to contraindicate a diagnosis of subacute bacterial endocarditis. The only thing slightly against it is that the first symptom in the present illness seems to have been dyspnoea. The fever is usually a much earlier symptom.

The lack of obvious heart enlargement is against an old valve lesion producing definite insufficiency. The blood pressure does not show a very definite increase in the pulse pressure, far different from the usual case of aortic insufficiency. And we know, of course, that acute valvular disease is very commonly superimposed upon an older valve lesion.

Incidentally, the longest course of subacute bacterial endocarditis that I have run across in my experience is about eleven months.

Dr. Lynch: This case was brought up following last week's both because of a kinship and because of a difference.

The picture in the main is one of subacute bacterial endocarditis. The heart is not greatly enlarged, although it did weigh slightly more than usual (425 gms). As you can see here (demonstrating autopsy specimens), there are warty vegetations on the aortic valve, and one valve cusp is ruptured. The appearance of

the vegetations is like that of subacute bacterial endocarditis, but the rupture is more like acute endocarditis. In the mitral valve there is an aneurysm of one of the cusps, bulging into the auricular side. This is undoubtedly due to infection of the valve, with weakening, dilatation, and eventual rupture at the base. These things, of course, account for the febrile illness, the heart symptoms, and the murmurs.

Here we almost put down aortic insufficiency, especially in one who has syphilis, as due to syphilis. In this case all the symptoms could not be explained on syphilitic insufficiency, but rather than alter the diagnosis, all of you have brought in another disease. You would rather make a diagnosis of two common diseases (syphilis and tuberculosis) than let one diagnosis cover all the symptoms, because the single disease is not so common, although by no means rare.

But now I am going to have to hedge on that a bit. This man did have syphilitic aortitis and valvulitis of the aortic valve. The aortic valve cusps are thickened, and one of the commissures is retracted and shortened, and one coronary orifice is slightly narrowed by the aortic disease. Whether he had an actual insufficiency before the vegetations were added I cannot say; certainly there was not a marked insufficiency due to the syphilis.

It is one of the recognized features of subacute bacterial endocarditis, as Dr. Wilson has pointed out, that vegetations are much more apt to form on valves already diseased from some other cause, than on perfectly healthy valves. We can think that in this case the syphilitic valvulitis predisposed the valves to subacute endocarditis, but even that is weakened slightly when we remember the involvement of the mitral valve in this case also, and it showed no previous lesion.

In order to make a diagnosis of subacute bacterial endocarditis, one must almost prove previous damage to the valves. Hence the combination of the two diagnoses, syphilitic valvulitis of the aortic valve and subacute bacterial endocarditis, is a much more logical one than syphilis and tuberculosis in this case, especially after seeing the X-ray of the chest.

Whether we call this acute or subacute bacterial endocarditis is a matter of opinion anatomically. Those terms have come to mean infection by the hemolytic streptococcus on the one hand or by the non-hemolytic streptococcus (viridans) on the other. Anatomically it is either unusually active subacute bacterial endocarditis or a relatively inactive acute. We have no bacterial studies on this case.

The fact that there were no embolic signs—

Dr. Wilson: Let me interrupt you there, Dr. Lynch. Petechiae must be searched for very carefully every day in order to be found. It is rather unlikely that they would be found, especially in a negro, unless they were especially looked for. And the tenderness in the toes may well have been an embolic symptom.

Dr. Lynch: That is very true. And repeated examinations of the urine would have revealed red blood cells, as there were small infarcts in the kidney. There were also infarcts in the spleen.

Dr. Wilson: I should like to emphasize one point Dr. Lynch has made. We have frequently noticed here a tendency to make multiple diagnoses when one will suffice, especially if the two diagnoses, separately, are more common than the single diagnosis that can explain the symptoms. This case could have been approached in this way. Can tuberculosis explain the heart symptoms and examination? No. Can the heart disease explain the continued fever, sweats, and septic course. Not syphilitic aortic valvulitis, but subacute bacterial endocarditis can. If one diagngosis will explain all the symptoms and findings, that diagnosis is usually correct. But there again, there are, admittedly, cases on whom one diagnosis will not suffice. There you must use your judgment.

WOMAN'S AUXILIARY

SOUTH CAROLINA MEDICAL ASSOCIATION

ADVISORY COUNCIL

Dr. E. A. Hines, Chairman ..... Seneca, S. C.
Dr. F. M. Routh ..... Columbia, S. C.
Dr. T. R. W. Wilson ..... Greenville, S. C.
Dr. J. Fred Crow ..... Spartanburg, S. C.
Dr. D. Lesesne Smith, Jr. ..... Spartanburg, S. C.

OFFICERS

President, Mrs. Jesse Willson ..... Spartanburg, S. C.

President Elect, Mrs. C. C. Arinil ..... Greenville, S. C.
First Vice President, Mrs. P. M. Temples Spartanburg, S. C.
Second Vice President, Mrs. W. B. Furman ..... Easley, S. C.
Recording Secretary, Mrs. T. R. W. Wilson Greenville, S. C.
Corres. Secretary, Mrs. John M. Fleming ..... Spartanburg, S. C.
Treasurer, Mrs. R. D. Hill ..... Pacolet, S. C.
Parliamentarian, Mrs. W. C. Abel ..... Columbia, S. C.
Publicity Director, Mrs. E. C. Ridgell ..... Batesburg, S. C.

STATE CHAIRMEN

Student Loan Fund, Mrs. L. O. Mauldin and Mrs. C. P. Corn ..... Greenville, S. C.
Treasurer Student Loan Fund, Mrs. J. Warren White ..... Greenville, S. C.
Jane Todd Crawford Memorial Fund, Mrs. James L. Bolt ..... Easley, S. C.
Public Relations, Mrs. Clarence E. Owens, Columbia, S. C.
Hygeia, Mrs. B. W. Kendall ..... Columbia, S. C.
Historical, Mrs. H. M. Stuckey ..... Sumter, S. C.

COUNCILLORS

District No. 1. Mrs. A. Ritter, Jr. ..... Ridgeland, S. C.
District No. 2. Mrs. Price Timmerman ..... Batesburg, S. C.
District No. 3. Mrs. W. L. Pressly ..... Due West, S. C.
District No. 4. Mrs. Harry Heinitsh ..... Spartanburg, S. C.
District No. 5. Mrs. W. R. Blackmon ..... Rock Hill, S. C.
District No. 6. Mrs. D. O. Winter ..... Sumter, S. C.

A MESSAGE FROM YOUR STATE PRESIDENT

At this time of the year we are thinking of our State Convention which will be held at Myrtle Beach, May 17th, 18th, and 19th. Much planning needs to be done before that time. Our best efforts are personal. A good Convention does not just happen—what you and I take to it and put into it and the spirit in which we go are what make a successful Convention.

We must put forth even greater effort now to accomplish what we have planned for the year, since we have just a few months left in which to work.

Remember our slogan for the year, "Increased Membership; every eligible doctor's wife, mother, or daughter an Auxiliary Member." Mrs. R. M. Pollitzer, Hillcrest Drive, Greenville, S. C., is membership chairman and will award the trophy to the County Auxiliary showing the largest average attendance for this year, according to the enrollment. See that your county membership chairman sends her your report by April 15th.

Mrs. T. R. W. Wilson's trophy will be awarded to the County Publicity Chairman who compiles the neatest scrap-book and contributes the largest amount of publicity. Mrs. E. C. Ridgell, State Publicity Director, Batesburg, S. C., will act as Chairman of the Committee of judges. Scrap-books should be sent to Mrs. Ridgell by April 15th.

Mrs. Frank Strait's trophy will be awarded to the Unit Historian sending in the best report on unit activities. These reports must be sent to Mrs. H. M. Stuckey, State Historian, Sumter, South Carolina.

Don't forget the exhibit to be on display at our State Convention at Myrtle Beach—old texts, old saddle-bags, old instruments, and any other interesting equipment of physicians of the State. Your Historian will be responsible for arranging and taking care of your exhibit while on display.

Make your plans to observe March 30th, as "Doctor's Day"—give as much publicity to this day as possible. March 30th is the day that Dr. Crawford W. Long first used ether anesthesia in surgery, and the observance will take the form of a social hour, luncheon, or dinner or some act of kindness, gift, or tribute.

Send in one dollar per member for the Student Loan Fund, and as much more as possible, to Mrs. Warren White. Also, your contributions to the Jane Todd Crawford Memorial Fund to Mrs. R. D. Hill, Pacolet, S. C.

I want to remind you that reports of County Chairmen must be sent to the State Chairmen by April 15th.

Thanking you for your cooperation and your help in making our 1938 Convention a very pleasant and successful one,

Mrs. Jesse O. Willson, President.

WOMAN'S AUXILIARY TO THE SOUTH CAROLINA MEDICAL ASSOCIATION

To the Auxiliaries:

Have you seen a write-up of your Auxiliary in the Journal? If not, why not? The answer is plain. I can't send a write-up to the Editor

unless you first send it to me. Please let me hear from you. Please write on one side of the paper only.

Best wishes for 1938.

Mrs. E. C. Ridgell, Publicity Secretary,
Batesburg, S. C.

PICKENS MEDICAL AUXILIARY

The Pickens County Medical Auxiliary held their December meeting in Pickens with Mrs. J. L. Valley as hostess. Mrs. J. L. Bolt, President, called the meeting to order at 3:30 with ten members answering roll call.

Mrs. Valley led the devotional with a prayer; Mrs. Byrd Lewis reading the Scripture. Bettie Rose Black and Dorothy Ann Keith sweetly sang the Christmas Carol "Noel." The Auxiliary was honored in having with them Mrs. Jesse O. Willson, President of the South Carolina Medical Auxiliary, and Mrs. O. B. Wilson, both of Spartanburg. Mrs. Willson made an interesting talk about Auxiliary work, giving facts and pointers. She also announced that March 30th had been voted upon as being the day set aside to honor the medical profession, and would be known as "Doctor's Day."

After reciting the Club Woman's Creed, the meeting adjourned and a "Thrift Sale" was held, the articles being auctioned off by Mrs. R. P. Jeans.

The hostess served her guests a Christmas salad with coffee.

Mrs. W. B. Furman, Publicity Chairman.

SPARTANBURG MEDICAL AUXILIARY HOLDS INTERESTING MEETING

Mrs. P. M. Temples and Mrs. John Fleming were hostesses to the members of the Auxiliary to the Spartanburg County Medical Society, Tuesday, January 25, 1938, entertaining at the home of Mrs. Temples on Victoria road, Park Hills, with 30 members present and two visitors, Mrs. G. F. Beeler and Mrs. A. Temples.

Mrs. Fleming, President of the local Auxiliary, was in the chair and presided over the business session and welcomed the visitors and three new members into the Auxiliary: Mrs. A. R. Fike, Mrs. F. H. Sanders, and Mrs. Paul Elkin.

Mrs. Harry Heinitsh gave a report on the trip to New Orleans session which was held during the Southern Medical Association Conference. Mrs. Heinitsh related the highlights of the meeting, as well as the social affairs given in their honor. Mrs. Jesse Willson, State President, reminded the group of Doctor's Day, which will be celebrated March 30th.

Continuing the historical research on early Spartanburg doctors who contributed much to the medicine in this community, Mrs. J. B. Stepp gave an informative paper on a group of doctors by Mrs. Ruth Keller, those contributing much between 1700 and 1800, Dr. Maurice A. Moore, Dr. Robert Maxwell Young, and Dr. John Pinckney Miller.

Following these splendid papers, a social hour was enjoyed with the hostesses. The tea table held a lovely spring arrangement of yellow jessamine and breath of spring; yellow candles completed the table appointments.

OCONEE COUNTY MEDICAL AUXILIARY GIVES BENEFIT BRIDGE TOURNAMENT

On Thursday night, February 3, members of the Oconee County Medical Auxiliary sponsored a bridge and set-back tournament at the Adams-Smith building on First North St., Seneca, S. C. This event was one of much interest and was highly successful. Thirty-six tables were in play during the evening. Refreshments of hot punch and cookies were served. Prizes were provided for through the courtesy of the merchants of Seneca as follows: a high score prize for women, a high score prize for men, a low score prize for women, a low score prize for men, and one prize to each person who bid a little slam and made it, fifteen of which were made. The money derived from the tournament, which amounted to $77.75, will be used for the Oconee County Hospital, located about two miles beyond the city limits of Seneca.

OBSTETRICS AND GYNECOLOGY

J. D. GUESS, M.D., GREENVILLE, S. C.

UTERINE HEMORRHAGE IN UNDELIVERED WOMAN NEAR TERM

This question was asked during the round table conference on obstetrics in Columbia some weeks ago: Discuss the treatment of severe hemorrhage occurring in a woman at term in her home. Because of the several ramifications suggested by the topic it could be only briefly touched on at that time. The writer will attempt to discuss it more fully at this time.

The subject may be divided in the following manner:

1. Emergency treatment pending transportation to hospital.
2. Delivery and restorative treatment in the hospital.
3. Emergency treatment, followed by delivery and restorative treatment in the home.

Each of these three phases of the subject will have to be considered with reference to the cause of hemorrhage. The two most common causes of hemorrhage in a woman at or near term, whether in labor or before the beginning of labor, is either accidental, or inevitable hemorrhage, to use an old term, or, to be more modern, separation of the normally implanted placenta, and placenta previa. Another serious, but infrequent, cause of hemorrhage, and one which will be mentioned but not discussed, is rupture of the uterus either before or during labor.

Less dramatic bleeding may arise from carcinoma of the cervix associated with pregnancy, rupture of a varicose vein of the vagina or vulva, extensive erosion of the cervix, intense vaginitis, injuries, et cetera. These, too, will be eliminated from the discussion.

Thus the discussion will be restricted to the treatment of abruptio placentae and plancenta previa with hemorrhage, the hemorrhage occurring while the patient is yet at home.

Some general statements are pertinent to the problem. The first hemorrhage from placenta previa, even though it may be severe, is rarely fatal, and one usually has an opportunity to plan the type of delivery to be used. Thus the immediate indications are combative of shock from hemorrhage. First give morphine to quiet both the patient and her uterus. Apply external heat and elevate the foot of the bed. Many doctors are now prepared to give intravenously physiological saline or glucose solutions. These are of value in case of severe hemorrhage with air hunger and excessively low blood pressure. However, if neither of these are present it is, perhaps, wise to withhold them until the bleeding has been arrested and so avoid increasing the hemorrhage by raising blood pressure.

Hemorrhage from abruptio placentae proceeds more slowly than that in placenta previa, but does not tend to check spontaneously. Labor is more likely to be in progress or to begin coincidentally with the placental separation. There is time to combat shock and to plan delivery.

All severe hemorrhage should be treated in the hospital. Blood typing and blood transfusion can be done with greater safety and dispatch. These cases most urgently demand hospitalization because of the added problem of delivery. Therefore, after the institution of emergency measures, it is wise that they be transported to the hospital.

In multiparas, with soft, partially dilated cervices, already in labor, treatment of abruptio placentae may be expectant and supportive in most cases, and the outcome will be satisfactory. Where the cervix is firm and labor not progressing and the hemorrhage increasing, delivery by cesarean section under infiltration (novocain) anesthesia offers the best outlook. This is done wholly in the interest of the mother, for these babies have already perished.

In placenta previa, there are four measures from which one has to choose. If the condition is found to be central placenta previa, cesarean section offers the best prognosis. It is selected by many almost routinely in all cases of uterine bleeding after viability of the baby.

In partial or lateral placenta previa, the hemorrhage can frequently be controlled by simple rupture of the membranes allowing the presenting part to come down and compress the forelying portion of the placenta. If this fails, or if one prefers, a hydrostatic bag may be introduced after rupture of the membranes, compression being exerted by the bag.

Finally, if the cervix will admit two fingers, one may do a Braxton-Hicks version, bringing down *one* foot. The thigh and buttocks then form a tampon which will surely control the bleeding until the cervix is fully dilated. Gentle pressure must be maintained until delivery and the doctor must be instantly available. This method deliberately sacrifices the child and is, perhaps, the method of choice where the child is not definitely viable.

If the case must be terminated in the home, the problems are less in number, but the prognosis is more grave.

If the bleeding comes from apoplexy of the placenta (I am purposely using the various terms applied to premature separation of the normally implanted placenta), the indication is to deliver as soon as the cervix will permit—but this does not justify forcible dilation of a firm, undilated cervix. Preparation of the cervix for delivery may be hastened by firm vaginal packing, and bleeding may be checked and considerably controlled by the application of a Spanish windlass type of tourniquet about the abdomen above and overlying the uterine fundus, and small doses of pituitrin may be given to increase the strength of the contractions.

After the cervix is dilated or is easitly dilatable, delivery should be accomplished by forceps or version, depending upon whether the head is engaged or floating and whether or not the membranes have been long ruptured. A uterine wall infiltrated with blood is easily torn. After delivery of the child and the placenta, if bleeding continues or the uterine muscle does not behave well, it should be firmly packed with gauze.

If the case be one of placenta previa, rupture of the membranes or Braxton-Hicks version should be resorted to, the indications being the same as in hospital treatment. Pituitrin and attempts to manually complete cervical dilation are highly dangerous. Labor up to full cervical dilatation and retraction should be slow, so that the danger of tearing through blood sinuses abnormally situated in the cervix may be avoided.

After full dilatation of the cervix, labor may be allowed to proceed normally or forceps or breech extraction may be done. After delivery of the child, pituitrin and ergot are urgently indicated, and it is perhaps safer to tightly pack the strongly contracted uterus and vagina with gauze after the placenta has been expelled or normally removed.

SOCIETY REPORTS

MINUTES OF THE ANNUAL MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT THE SOUTH CAROLINA HALL, TUESDAY EVENING, DECEMBER 21st, 1937, AT 8:30 O'CLOCK

The meeting was called to order by the President, Dr. W. Atmar Smith, and the Minutes of the meeting of November 23rd were read and approved. The Chair recognized among the guests Dr. J. W. Jervey, the President of the Southern Medical Association, who was called upon and spoke briefly.

The name of Dr. Jessie R. Cockrill was reported upon favorably by the Board of Censors, and she was thereupon elected unanimously to membership.

Dr. Mood made an announcement that the Board of Commissioners was contemplating the formation of a lay advisory board which should be elected by various civic organizations and should act in a purely advisory capacity along with the Board of Commissioners. He pointed out that the Medical Society was only the Trustee for the funds with which the Hospital is operated, and that the ownership of the property resides in the pauper class of Charleston. Upon motion of Dr. Cathcart, this was received as information, after discussion

by Drs. Buist, Jr., Cain, Taylor, F. R. Price, and Sanders.

The Secretary mentioned that the Chamber of Commerce was contemplating the formation of a Health Committee, whose objective would be the improvement of hospital facilities.

Dr. Miles announced that the Dorchester County Hospital was open for patients. and hoped that it could reciprocate with the Roper Hospital.

A letter from the State Board of Health concerning Syphilis Control was received an information.

The Secretary reminded the members of the increase in dues for the coming year.

The election of Officers was then carried out, with the following results: Dr. James J. Ravenel, President; Dr. R. L. McCrady, Vice-President; Dr. J. I. Waring, Secretary-Treasurer; Dr. W. C. O'Driscoll, Librarian; Dr. J. J. La Roche, Commissioner of the Roper Hospital (for 5 years); Dr. Wythe M. Rhett, Member Board of Censors (for 3 years); Dr. J. S. Rhame, Member Board of Finance (for 9 years); Dr. A. J. Buist, Jr., delegate to the State Medical Association (for 5 years); Alternates for one year, Dr. John C. Beckman, Dr. T. Hutson Martin, Dr. Eleanor W. Townsend, Dr. John van de Erve, Sr., Dr. I. R. Wilson, Jr. The following members were elected to Honorary Membership in the Charleston Medical Society: Dr. J. J. La Roche, Dr. W. A. Smith, and Dr. J. T. Taylor.

The retiring President then read a speech, which was heard with great interest by the Society: as follows:

ADDRESS TO THE MEDICAL SOCIETY OF SOUTH CAROLINA

By

WILLIAM ATMAR SMITH, RETIRING PRESIDENT

Fellow Members:

In fulfilling this duty, which by tradition devolves upon the retiring President, I am afforded the opportunity of expressing to you my appreciation of your confidence and my gratitude for the privilege of serving as your presiding officer for the past two years. I esteem it no inconsiderable distinction to have been chosen President of a Society which has had upon its rolls the names of distinguished physicians whose lives and works have shed luster upon the medical profession, and which now has enrolled upon its membership list the names of my colleagues and friends with whom I have worked (and played) for many years, and for whom I have only respect, esteem, and much affection.

Although decreed by custom, it would serve no useful purpose for me to review the happenings and incidents which have occurred during my administration. The worthwhile acts will stand on their own merit; the failures and mistakes, I prefer to have you forget. It is sufficient for me to express the hope that during my term of office the affairs of our Society have prospered, due, I believe, in no small measure to your cordial cooperation in participating in its activities, but largely to the efficiency of our Secretary and Treasurer. To Dr. Waring we are indebted for valuable scientific programs, expedition in the transaction of business, and a more than "balanced budget." Your wisdom in once more combining the office of Secretary with that of Treasurer has been clearly established, and your good judgment in placing in this dual office such a faithful servant is amply verified.

There are a few matters which affect the business affairs of the Society that seem to me to merit consideration, and which I desire to comment upon before proceeding with the main theme of this brief discourse.

The first concerns the "Honorary Fellows." Of a total membership of 103, including those elected tonight, there are now twenty-five members in this select group. Practically twenty-five per cent of the Society are enjoying the privileges, advantages, and opportunities afforded by their membership and are making no contribution to its maintenance. This is eminently unfair and is, besides, poor business. It is possible that the founders viewed twenty-five years as a life span in medicine, and figured that only a few would survive to enjoy the honor. With one-fourth of our enrollment now made up of this "obsolescent" group, we might be led to conclude that after all, the actuarial estimate of the increased life span applies to the later decades, and is not due to the lowered mortality in the earlier years. However this may be, the fact remains that too many of our members, through no fault of their own, are not helping financially to support the work of our organization.

I would recommend that during the coming year the By-Laws be so amended that members shall only be eligible for this distinction who have served not less than thirty years, and only then if they have rendered some distinguished service to the Society. I would have the title to mean what it seems to imply. I would furthermore desire that if such a change is made, it be so recorded as to be retro-active to the beginning of 1937. Personally, I do not care to be an "Honorary Fellow" yet.

I will further direct your attention to the increase in membership of our Society. We now have 103 members enrolled; the largest enrollment, so far as I have been able to ascertain, in our history. Our present society hall is too small to comfortably

seat the members and guests. An attempt should be made to provide more spacious and better accommodations for our meetings. I can suggest no proposal at the present moment whereby this desirable objective might be attained, but I feel that it is one for which we must make plans in the not far distant future.

But it is especially to the hospital situation that I wish to direct your attention. It has been plain to all of us for many years that the hospital facilities of this community are entirely inadequate. Based upon an estimate of the American Hospital Association, we are nearly 50 per cent, short of what is deemed an acceptable hospital bed basis for Charleston County. I have estimated that the total hospital beds available for the care of private as well as pauper sick is at present 480. According to the Hospital Association table there should be 920 hospital beds. This latter estimate probably approaches the ideal and is based, not only upon the present, but anticipates the future needs as well. In a rapidly growing community, it would seem desirable to attain to this; in Charleston County, with a rather stable population, we might make a more conservative appraisal; but even so, not less than 200 additional hospital beds are demanded.

The present Roper Hospital, constructed by our Society and opened for patients in 1906, was considered at that time the "last word" in hospital construction. Today it is obsolete and out-moded. Through the years, by remodelling here and there, readjusting, replacing, and repairing, we have in a measure met the varying demands brought about by the evolution in the methods of medical and surgical treatment, advancement in laboratory study, and in administrative and educational practices. Fortunately, we have been able to keep our equipment up-to-date, and have thus been able to utilize, except in highly specialized fields, all of the accepted procedures which the great advance in medical knowledge throughout these years has made possible.

In spite of the handicaps under which we have had to work, the Roper Hospital, under the management of this Society, has rendered a high grade of medical service to this community. Because of the lack of bed capacity, many worthy cases are day after day being turned from the doors of the Hospital; time after time cases have been discharged from the Hospital, where a few more might have been of greater benefit, in order to make room for another case more in need of immediate care. In order to accommodate seriously ill patients, it has been necessary to over-crowd the wards to such an extent that it has been difficult to give them proper nursing care. In certain departments there is a long waiting list. These are the more chronic conditions for which emergency treatment is not necessary, but who would, were space available, be saved many hours of suffering and many weeks or months of physical incapacity.

I am certain that all of you gentlemen are well aware of these facts. It seems to me that the time has now arrived when this Society should take aggressive steps to improve the hospital service by increasing the bed capacity of Roper Hospital in order to meet the more and more insistent demands for adequate facilities.

When this Society was organized nearly 150 years ago, in addition to its social and educational purposes, there was a plan for the establishment of a "Dispensary for dispensing medicines and furnishing medical attendants to the poor," and shortly after its organization this objective was achieved and a dispensary conducted for many years. It was one of the first public charities. The high plane upon which it was conducted, the skill, intelligence, and humane attentions bestowed without recompense upon the pauper sick, won the confidence and support of the people of Charleston; and as a result of this we have enjoyed through the years the trust and confidence of the people in our leadership in medical affairs.

This has been demonstrated by the trust funds which have been placed in our hands for the conduct of the Roper Hospital. It is to the everlasting credit of our Society that in all the years we have handled these funds, there has never been a suspicion of misuse or misappropiation. Today the total of this fund approaches half a million dollars; managed by a Board of Finance through a critical economic period, it has been held intact, without the loss of a single dollar.

You are conversant with all of these facts, I know. I emphasize them because I believe that the present method of caring for the sick, disabled, and injured in Charleston, under the auspices of our Society, is practical and economical, and would be satisfactory were it possible to obtain these increased facilities which are so urgently needed.

The fact of the matter is that we need a new hospital and we need to have our present plant remodeled. My idea would be, and I think it is in accord with the present management of the Hospital, to construct a modern 200-bed plant to be used for white patients and to remodel the old one for the colored patients. In order to take care of the increased capacity, it would be necessary to have a larger nursing staff and a modern nurses' home would have to be built.

In order to do these things, I would roughly estimate the cost at $500,000. We have available at the present time approximately $140,000 for construction purposes, $75,000 of which was given by Mr. Morawetz, and $65,000,or approximately that amount, is now available in the Ross Fund. The balance must be secured from other sources. I believe, before it is too late, an appeal should be made for Government funds to make up this difference. It is the duty of our Society to point out this urgent need to the community, and I would recommend that we appoint at once a Committee from this Society, a member of which shall be its

President, to be known as "The Hospital Expansion Committee," and that this Committee be instructed to call in certain representative citizens from various other vocations to serve with them.

This is an enterprise in which every citizen of Charleston has a stake. It is not solely a medical problem; it is a community problem. It is our duty, as medical leaders, medical administrators, and officers, not only to point the way, but to aggressively promote this vital civic exigency.

Willian Atmar Smith, M. D.

Dr. J. E. Smith made a motion that this speech be incorporated in the Minutes and a Committee be appointed to investigate the festibility of carrying out the recommendations made by Dr. Smith.

The newly elected President, Dr. James J. Ravenel, then took the Chair and made a few remarks of appreciation of his election. He reminded the Society that three of our faithful members were unable to attend the meeting, Drs. Ball, Rutledge, and Edward F. Parker. The Society directed the Secretary to write letters to these members expressing regret at their absence.

The new President appointed the following Committee to investigate the feastibility of carrying out the recommendations made by Dr. William Atmar Smith, the Retiring President: Dr. W. A. Smith, Chairman, Dr. J. E. Smith, Dr. K. M. Lynch, Dr. G. Mc. F. Mood, and Dr. J. J. Ravenel.

The Society then adjourned to a banquet, at which the speakers were Mr. Augustine T. Smythe and Dr. Harry S. Mustard.

Respectfully submitted
J. I. Waring, M. D., Secretary

MINUTES OF REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA HELD TUESDAY, JANUARY 11th, 1938, AT 8:30 P. M. AT THE ROPER HOSPITAL

The meeting was called to order by the President, Dr. James J. Ravenel. Forty three members were present and two guests, Dr. Kalayjian and Mr. Kinard. The minutes of the Annual Meeting, December 21, 1937, were read and approved.

The Chair announced a vacancy in the Delegation to the State Medical Association. After some discussion by Drs. Cathcart, Robert Wilson, Jr., and A. J. Buist, Jr., Dr. Robert Wilson made a motion that the Society consider that there is a vacancy among the Delegates, and that a Delegate be elected to fill the unexpired term of Dr. Pearlstine. Dr. R. M. Hope was nominated by Dr. A. E. Baker, seconded by Dr. Prioleau, and was elected unanimously to the position.

Dr. Cathcart then made a report for the Committee on the Ross Estate. This report was received as information.

Dr. A. E. Baker then read the report of the Committee appointed to draw up resolutions on the death of Dr. Kivy I. Pearlstine. These resolutions were adopted by a rising vote, and a motion was passed that the Report be spread on the minutes and a copy sent to the family of Dr. Pearlestine.

TRIBUTE TO THE MEMORY OF KIVY I. PEARLESTINE

On the 25th day of November, 1937, Dr. Kivy I. Pearlestine entered into life eternal. His sudden passing was a shock to this community, in which he practiced his chosen profession and for many years maintained a position of honor and usefulness.

He was a man unassuming in manner and yet filled with a high sense of honor and responsibility, which was recognized and appreciated by the large practice which it was his privilege to enjoy for a period of thirty years.

Dr. Pearlestine was graduated in medicine from the University of Maryland in 1906. He interned at the Roper Hospital in Charleston, S. C., and began the practice of medicine in 1907. He was a member of the Medical Society of South Carolina and the South Carolina Medical Association. He was regular in his attendance at the First District of South Carolina Medical meetings, and was recently a delegate from his local Society to the South Carolina Medical Association meeting. His membership and service contributed much to the continued growth and usefulness of these meetings.

Therefore, Be It Resolved that in the death of Kivy I. Pearlestine the Medical Society of South Carolina has lost a true friend and valued member;

Resolved that this Society sincerely sympathize with his family in their sad bereavement;

Resolved that these Resolutions be entered in the Minutes of the Society, and that a copy be transmitted by the Secretary to the family of the deceased.

(Signed)
M. S. Moore, M. D.
A. E. Baker, M. D., Committee

Dr. Robert Wilson reported for the special Committee appointed to consider the "Principles and Proposals" of the "Committee of Physicians" as follows:

"The committee appointed for the purpose of proposing suitable resolutions concerning the "principles and proposals" of "The Committee of Physicians," Dr. John J. Peters, Secretary, recommends the adoption of the following:

Whereas the uneven distribution of medical care is a matter of grave concern and one that urgently demands a solution, we do not believe that the best solution of the problem will come from the action of detached groups of the profession but through the regular channels provided by organized medicine; and

Whereas there is much in the "principles and proposals" which has long been accepted by the medical profession, and with which we are in agreement, especially that the health of the people is a concern of the government, and that a national public health policy directed toward all groups of the population should be in constant course of development, it is our belief that the ends set forth in the "principles and proposals" can be accomplished best through programs directed by the medical profession and not by the government; and

Whereas public support should be available for medical education and research and for the provision of adequate medical care of the indigent, we are unalterably opposed to Federal bureaucratic control of these activities, but believe that such support should be given through the state agencies which are already properly constituted, and further, that all programs toward these ends must develop in the medical profession in order to insure the best results; and

Whereas the medical profession is always ready to give to the government as well as to the people at large its best efforts, we believe the paramount principle in any program for the betterment of existing conditions in that medicine shall be free and uncontrolled. Therefore be it

Resolved that the Medical Society of South Carolina (The Charleston County Medical Society) does not endorse the movement promoted by the "Committee of Physicians," nor that of any other detached group; and further be it

Resolved that copies of these Resolutions be sent to said Committee, to the South Carolina Medical Association, to the American Medical Association, and to our representatives in Congress, as expressing our unalterable opposition to any effort to federalize control of medical education, medical research, or medical practice.

(Signed)
Kenneth M. Lynch, M. D.
Robert Wilson, M. D.
J. H. Cannon, M. D., Chairman

This report was adopted by the Society.

(Continued next month)

PRACTICAL PROCTOLOGY: By Louis A. Buie, A. B., M. D., F. A. C. S., Head of Section on Proctology, The Mayo Clinic; Professor of Proctology, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. 512 pages with 152 illustrations. Philadelphia and London: W. B. Saunders Company, 1937. Cloth, $6.50 net.

The author of this book is a native of South Carolina who has distinguished himself by his pioneer efforts in the speciality he represents and by the many contributions he has made to the literature. The very first paragraph, Chapter I, arrests our attention at once, for we read as follows: "One of every seventeen patients who come to the Mayo Clinic complaining of rectal trouble has cancer of

REPRINTS!

Type used in each issue of The Journal is held for thirty days and in order to get the benefit of this saving, orders should be received within this time.

PROVENCE-JARRARD COMPANY, Inc.

Greenville, S. C.

the terminal colon or anus, and one of every four of these patients has received treatment for some other supposed rectal condition during the period of his chief illness, the cancer remaining undiscovered. The failure is due to the attitude of the two chief parties concerned; namely, the physician and the patient, and can be corrected by the proper alteration of this attitude." With such a back-ground the author starts off in a very simple way, giving the details of how to examine a patient with a discussion of the office equipment and instruments considered helpful. From this point the author advances into the treatment of the many pathological conditions so often discovered by a careful examination in this special field. As is the rule at the Mayo Clinic, practically all of their books present unusually high class illustrations.

—LEMONS—
Select Lemons (rough skin) 75 lbs. $6.75
Limes 90 lbs. $8.00
Oranges—select quality 90 lbs. $4.50
Tangerines 90 lbs. $4.50
Grapefruit 90 lbs. $4.00
Address:
DAVID NICHOLS CO.
ROCKMART, GEORGIA
BOX 84

BLACKMAN SANATORIUM

A medical institution for the diagnosis and treatment of internal diseases

Extensive facilities for hydrotherapy and colonic lavage.
Electrotherapy including fulguration

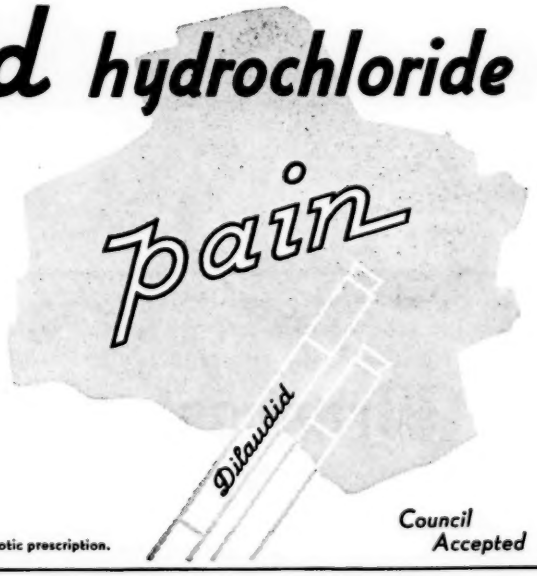
LIKE NEW THROUGHOUT
Clinical and X-ray Laboratory Service 25 Attractive Hotel Type Rooms
A Department for the Lambert Treatment for Alcohol
418 CAPITOL AVENUE ATLANTA, GA.

Dilaudid hydrochloride

For acute or hopelessly chronic pain where an opiate is required, try Dilaudid hydrochloride for quick relief.

DOSE: 1/48 to 1/20 grain.

In hypodermic and oral tablets, rectal suppositories and powder.



Council Accepted

• Dilaudid HCl, dihydromorphinone HCl, requires a narcotic prescription.

BILHUBER-KNOLL CORP. - 154 OGDEN AVE. JERSEY CITY, N. J.

Cook County Graduate School of Medicine

(In Affiliation With Cook County Hospital)

Incorporated not for profit

Announces Continuous Courses

SURGERY—General Courses, One, Two, Three and Six Months; Two Weeks Intensive Course in Surgical Technique with practice on living tissue; Clinical Course; Special Courses.

GYNECOLOGY—Two Weeks Intensive Course starting March 28th; Personal Courses.

OBSTETRICS—Two Weeks Intensive Course starting April 11th; Informal Course.

FRACTURES & TRAUMATIC SURGERY—Informal Practical Course; Ten Day Intensive Course starting April 11th.

OTOLARYNGOLOGY—Two Weeks Intensive Course starting April 4th.

OPHTHALMOLOGY—Two Weeks Intensive Course starting April 18th; Personal Course in Refraction.

UROLOGY—General Course One Month; Intensive Course Two Weeks; Special Courses.

CYSTOSCOPY—Ten Day Practical Course.

General, Intensive and Special Courses in all branches of Medicine and Surgery

TEACHING FACULTY

Attending Staff of Cook County Hospital

Address: Registrar, 427 South Honore St.
CHICAGO, ILL.

16,000 ethical practitioners

carry more than 50,000 policies in these Associations whose membership is strictly limited to Physicans, Surgeons and Dentists. These Doctors save approximately 50% in the cost of their health and accident insurance.

P H OMAHA

Since 1912

$1,500,000 Assets

We have never been, nor are we now, affiliated with any other insurance organization.

Send for application for membership in these purely professional Associations

$200,000 Deposited with the State of Nebraska

for the protection of our members residing in every State in the U.S.A.

P C OMAHA

Since 1902

PHYSICIANS CASUALTY ASSO.
PHYSICIANS HEALTH ASSO.
400 First National Bank Building
OMAHA - - NEBRASKA

Waverley Sanitarium, Inc.

Founded in 1914 by

DR. J. W. BABCOCK, Columbia, S. C.

A hospital for the diagnosis and treatment of neuro-psychiatric diseases.
A department for the care and treatment of alcoholic habitues.
A home for senile and convalescent patients.
Especial care given pellagrins.

E. S. Valentine, M.D.
Medical Director

Box 388
Columbia, S. C.

Mrs. J. W. Babcock
Superintendent

Broadoaks Sanatorium

MORGANTON, N. C.

A private Hospital for the treatment of Nervous and Mental Diseases, Inebriety and Drug Habits. A home for selected Chronic Cases

JAMES W. VERNON, M.D., Supt. and Resident Physician.